

impact

of the College of Agriculture and Life Sciences



Competitive Agricultural Systems in Global Economy Arizona Meteorological Network (AZMET)

Issue

The Arizona Meteorological Network (AZMET) was developed in 1987 to provide weather data and information in near real time to the state's producers of agricultural and horticultural crops. Properly tailored weather information can assist with important management decisions related to variety selection, planting dates, crop assessment, pest control, irrigation and harvest.

What has been done?

A network of 23 automated weather stations was established in southern and central Arizona to supply meteorological data from important agricultural production areas and selected urban locations. Meteorological data obtained by the stations are transferred to a Tucson-based data processing center each night where computers process the data into a variety of informational formats. AZMET data and reports are made available to the public free of charge via two Internet Web pages.

Impact

AZMET is now widely accepted as an important (and often the only) source of meteorological information pertaining to the production of agricultural and horticultural crops in Arizona. Use of AZMET information continues at a high rate; users accessed AZMET Web pages in excess of 90,000 times in 2002.

Crop Production: Perhaps the most important impact of AZMET in production agriculture has been its ability to provide reliable information on heat units which are used to 1) time planting and harvest dates of horticultural crops such as melons and sweet corn; 2) predict pest development; and 3) monitor general crop development. AZMET plays an integral role in the success of the Arizona Cotton Advisory Program by providing weekly updates on heat unit accumulation, crop water use, and current and projected weather condition. AZMET also provides daily updates on the potential for heat stress, which can significantly reduce fruit retention and yield of cotton.

Water Use/Irrigation Management: AZMET provides data on evapotranspiration (ET) which can be used to estimate the water use of vegetation. During 2003 the tribal farm of the Ft. Mohave Indian Reservation began using AZMET ET to schedule irrigations on more than 6,000 acres of cotton and alfalfa. AZMET generates daily turf water use reports for the Phoenix area and distributes this information to the public via a turf water management web page, email and automated fax transfer system. Sixteen large turf facilities (with more than 10 acres in turf; mostly golf courses and parks) receive this information via email or fax daily. The turf web page was accessed in excess of 5300 times in 2002. AZMET also generates a lawn watering guide which is published daily in major newspapers in the Phoenix metropolitan area.

Consulting: AZMET information is also widely used by the consulting community for production agriculture, environmental impact assessments, insurance claims, legal disputes and water rights adjudication.

Funding

Arizona Cotton Research and Protection Council
Arizona Grain Research & Promotion Council
Arizona Department of Water Resources
City of Phoenix

Station sponsors: irrigation districts, NRCs, power districts, commodity organizations, etc.

Contact

Paul W. Brown, extension specialist, biometeorology
Department of Soil, Water and Environmental Science
429 Shantz Bldg #38, Tucson, AZ 85721
Tel: 520-621-1319, FAX: 520-621-9796
Email: pbrown@ag.arizona.edu